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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/297,591	05/03/1999	TAKANORI NAMBU	JA171	9975
27752	7590	06/15/2005		
THE PROCTER & GAMBLE COMPANY INTELLECTUAL PROPERTY DIVISION WINTON HILL TECHNICAL CENTER - BOX 161 6110 CENTER HILL AVENUE CINCINNATI, OH 45224			EXAMINER CHOI, FRANK I	
			ART UNIT	PAPER NUMBER
			1616	
DATE MAILED: 06/15/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/297,591

Applicant(s)

NAMBU, TAKANORI

Examiner

Frank I. Choi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/28/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 4-7 recite amphoteric polymers which appear to have been cancelled from claim 1 on which said claims are dependent. As such, there is insufficient antecedent basis for the limitations related to said amphoteric polymers in the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grollier et al. (US Pat. 4,240,450) in view of Remington's, Grollier et al. (US Pat. 4,796,646), Grollier et al. (US Pat. 4,761,273), GB 1407659 and Grollier et al. (US Pat. 5,089,252).

Grollier et al. (US Pat. 4,240,450) disclose the combination of cationic, such as dimethyldiallylammonium chloride and its copolymer with acrylamide or quaternium -38, 37, 49, or 42, and anionic, such as polymers of acrylic or methacrylic acid or copolymers of the same, polymers which can be combined with amphoteric polymers for the treatment of hair (Column 2, lines 7-63, Column 5, lines 55-68, Column 6, Column 34, lines 23-25, Column 40,

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lines 47-53, Column 44, lines 39-41). It is disclosed that the composition can include a solubilizing agent, such as non-ionic surface active agents or solvents, such as alcohols and glycols, which are present preferably in an amount of 0.5 to 50 of the total weight of the composition (Column 46, lines 56-68, Column 47, Column 48, lines 1-58, Column 49, lines 1-9). It is disclosed that the cationic polymers and anionic polymers are each present in an amount preferably of from 0.05 to 5% by weight of the composition (Column 48, lines 59-68). It is disclosed that the compositions can be pressured as an aerosol (Column 51, lines 64, 65).

Remington's discloses that surfactants having a HLB range of 10-18 are used as solubilizing agents (pg. 323)

Groller et al. (US Pat. 4,796,646) discloses a mixture of anionic, cationic and amphoteric (see image below), including amphoteric polymers of betainised (methyl)acrylamide, polymers and discloses that the concentrations of the polymers is suitably 0.01 to 10 by weight and that if the composition is intended more particularly as a foam, it is desirable to use concentration of cationic polymer of 0.01 to 5%, preferably 0.1 to 3%, and concentrations of anionic polymer of 0.01% to 5%, preferably 0.1 to 3% (Columns 2-11, Column 13, lines 40-46, Claims 6, 18). It is disclosed that the composition can contain solvents, such as glycols and alcohols, and be packaged as an aerosol spray or aerosol foam (Column 6, lines 43-59). It is disclosed that the composition can include non-ionic surface active agents (Column 7, lines 6-16). It is disclosed that the composition can be used to treat hair (Column 7, lines 16-26).

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The amphoteric polymers consist of A and B moieties distributed statistically in the polymer chain, where A denotes a moiety derived from a monomer containing at least one basic nitrogen atom and B denotes a moiety derived from an acidic monomer containing one or more carboxylic or sulphonic groups or alternatively A and B can denote groups derived from zwitterionic monomers of carboxybetaines; A and B may also denote a cationic polymer chain containing secondary, tertiary or quaternary amine groups in which chain at least one of the amine groups carries a carboxylic or sulphonic group connected through the intermediacy of a hydrocarbon radical, or else A and B form part of a chain of a polymer containing an α,β -ethylenedicarboxylate moiety in which one of the carboxylic groups has been caused to react with a polyamine containing one or more primary, secondary or tertiary amine groups.

Grollier et al. (US Pat. 4,761,273) disclose that the description of amphoteric polymers above include polymers containing units derived from at least one monomer chosen from acrylamides or methacrylamides substituted on the nitrogen by an alkyl radical, at least one acid monomer containing one or more reactive carboxylic acid groups and at least one basic monomer and polymers containing zwitterionic units of formula (VII) (Column 2, lines 33-50, 63-68, Column 10, lines 1-29). It is disclosed that foaming cationic polymers, such as CELQUAT L 200 and CELQUAT H 100, can be combined with acrylic or methacrylic anionic polymers (Column 13, lines 61-68, Column 14, lines 1-14). It is disclosed that the solvent medium preferably consists of water and can optionally contain alcohols and glycols (Column 12, lines 59-68). It is disclosed that the composition can be used treat hair in the form of a foam applied from an aerosol device (Column 15, lines 21-30).

GB 1407659 disclose that an interpolymer containing N-substituted alkyl(meth)acrylamides, acidic comonomers and a comonomer derived from alkyl (meth)acrylates, hydroxyalkyl(meth)acrylates, primary, secondary, tertiary and quaternary amine-substituted (meth)acrylates, has good solubility in aerosol hair sprays and useful as the

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film forming binder component of hair fixing compositions (Pg. 1, lines 65-78, Pg. 2). It is disclosed that the amount of the interpolymer can range from 0.25 to 7% by weight (Pg. 3, lines 63-66). It disclosed that the composition can contain solvents, such as alcohol and/or water, and other additives such as ethylene oxide adducts, or plasticizers, such as glycols (Pg. 7, lines 67-115).

Grollier et al. (US Pat. 5,089,252) discloses that amphoteric polymers of betainised dialkylaminoalkyl(meth)acrylate or dialkylaminoalkyl (meth) acrylamide, typically used in an amount from 0.01 to 10% by weight, in combination with cationic polymers, such as CELQUAT L 200, CELQUAT H 100, MERQUAT 100 or 550 or Quaternium 38, 37, 49 or 42, typically used in an amount from 0.01 to 10%, preferably 0.05 to 5% by weight, provide hold and the hair is soft to touch (Column 1, lines 48-68, Columns 2-11). It is taught that the composition can also nonionic surfactants and solvents, such as alcohols or glycols, which surfactants and solvents act as solubilizers, and anionic polymers (Column 12, lines 27-68, Column 13, lines 1-31, 48-56). It is taught that the composition can be in the forms of aerosol foams or sprays for treatment of hair (Column 13, lines 40-47, 64-68, Column 14, lines 1-4).

The difference between the cited reference and the claimed invention is that the cited reference does not expressly disclose the combination of amphoteric, cationic and anionic polymers in the specified amounts. However, the prior art amply suggests the same as it is known in the art to formulate hair treatment compositions containing a mixture of the three types of polymers. Further, it would have been well within the skill to arrive at various amounts of the components through optimization of the prior art values based on the desired characteristics of the composition, for example, length of hold and flexibility. Furthermore, one of ordinary skill

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in the art would have been motivated to modify the prior art as above with the expectation of formulating a hair treatment composition that will provide hold and flexibility

Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been taught by the teachings of the cited reference.

Conclusion

A facsimile center has been established in Technology Center 1600. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier number for accessing the facsimile machine is 571-273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Choi whose telephone number is (571)272-0610. Examiner maintains a flexible schedule. However, Examiner may generally be reached Monday-Friday, 8:00 am – 5:30 pm (EST), except the first Friday of the each biweek which is Examiner's normally scheduled day off.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Gary Kunz, can be reached at 571-272-0887. Additionally, Technology Center 1600's Receptionist and Customer Service can be reached at (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FIC

6/9/05



SABIHA QAZI, PH.D
PRIMARY EXAMINER